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INTERNATIONAL SCIENCE PROGRAMME ISP

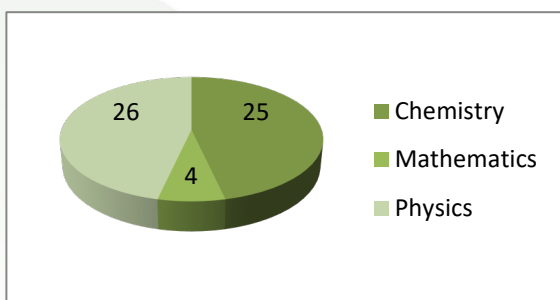
Activities and achievements in 2020

The International Science Programme (ISP), at Uppsala University, Sweden, assists the building and strengthening of domestic research capacity and postgraduate education in the basic sciences chemistry, mathematics and physics. ISP aims to contribute to the growth of scientific knowledge, by engaging in long-term collaboration with institutionally based research groups and regional scientific networks in Africa, Asia and Latin America. The main funder of ISP is the [Swedish International Development Cooperation Agency \(Sida\)](#). [Uppsala University](#) and [Stockholm University](#) provide additional valuable support. This is a summary of the achievements of ISP and supported activities in 2020.

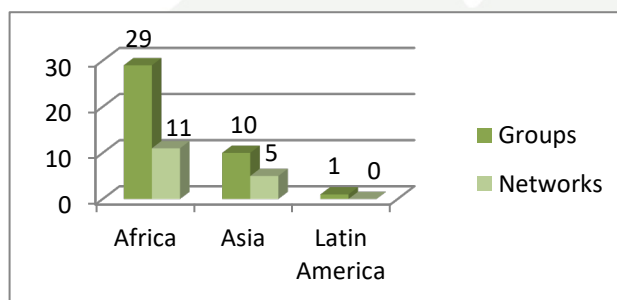
SUPPORTED ACTIVITIES

In 2020, ISP provided support to 40 research groups and 16 regional networks. The research groups are located in 13 countries in Africa, Asia and Latin America; Bangladesh, Bolivia, Burkina Faso, Ethiopia, Kenya, Laos, Mali, Myanmar, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe. The regional networks are coordinated from countries in Africa and Asia. New support was provided to two groups, while support to three research groups were concluded. Groups and networks together utilized about 26,5 million SEK.

Number of groups and networks by program



Number of groups and networks by region

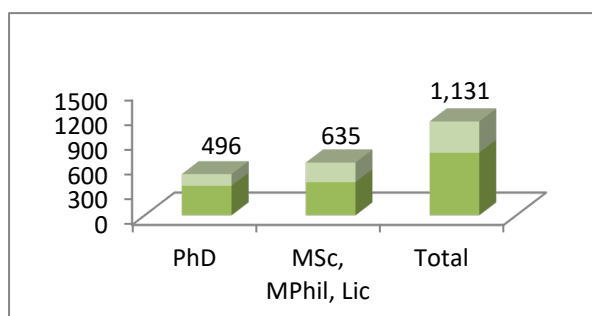


NUMBER OF STUDENTS

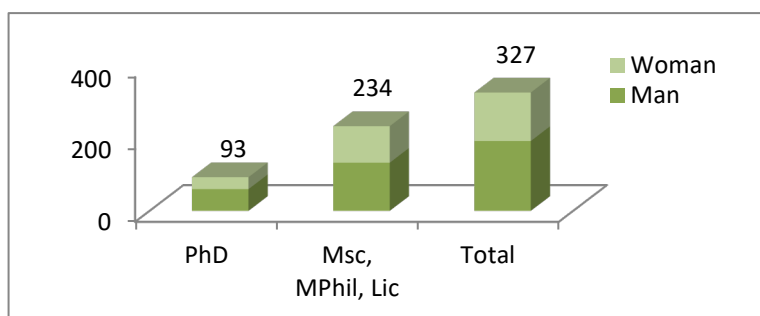
Registered students. In 2020, 1,131 postgraduate (Master, Licentiate and PhD level) students were active in ISP supported groups and networks: 496 students on the PhD level (31% women) and 633 students on the MSc, MPhil or Licentiate level (37% women). About 38% of the PhD students and 14% of the other postgraduate degree students were trained on a sandwich basis, spending part of their research training at home and part at a host university abroad. The remaining 548 students pursued their postgraduate studies in local programs at universities in their home countries.

Graduations. Supported groups and networks graduated 327 students during the year, 93 PhD students (37% women), and 234 MSc, MPhil and Licentiate students (43% women).

Number of registered students



Number of graduated students





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DISSEMINATION

In 2020, the supported groups and networks published 634 papers in scientific journals out of which 50% were quality journals, listed with Thomson Reuter (TR) impact factors. Group and network members gave 317 conference contributions; 45% at international conferences. They also arranged 138 scientific meetings attended by about 6,816 participants. Most conferences and meetings turned to digital mode due to the covid-19 pandemic.



EXAMPLES OF RESEARCH FINDINGS, USE AND INFLUENCE IN POLICIES AND PRACTISES



Bangladesh. In connection with the outbreak of the Covid-19 pandemics, a physics group developed a type of transparent canopy to position over a hospital bed to clean the air from the virus. The cleaned air can then be recirculated back safely. Four such units have been installed at a premier Medical University. (IPPS BAN:04)

A model for the transmission dynamics of cystic echinococcosis in the dog, sheep, and human populations was developed and analysed. A sensitivity analysis of the key parameters was given and strategies that are helpful to control the transmission of cystic echinococcosis were provided. (IPMS ETH:01)



Burkina Faso. A chemistry group had interactions with the local population in the northern part of Burkina Faso regarding the issue of arsenic contaminated ground water. The group installed a pilot station for arsenic treatment on the site. They also had discussions with the local community to explain the process. (IPICS BUF:01)



Tanzania. An enhanced box solar-cooker was designed and fabricated by a physics group. The analysis of the performance showed that the absorber plate could reach temperatures sufficient to cook some types of food. The analysis of the effect of thermal storage revealed the possibility of cooking for much longer hours in the evening. Overall, the new design led to a significant improvement of previous solar box cookers. It can be used by rural communities for clean cooking. (IPPS TAN:01/2)

ADDITIONAL ASSIGNMENTS AND ACTIVITIES IN 2020

Sida. ISP continued to coordinate, on the Swedish side, Sida bilateral research cooperation in Cambodia, Ethiopia, Mozambique, Rwanda, Tanzania and Uganda.

ABU. While cooperation with Al-Baha University (ABU) in Saudi Arabia was formally terminated in April 2019, one ABU student successfully defended his PhD thesis at Uppsala University.

TICA. The PhD fellowship program jointly organized by the Thailand International Cooperation Agency, Sida and ISP continued with two physics PhD fellows from Myanmar studying at Uppsala University.



Staff in the Covid-19 testing laboratory of the African Institute of Biomedical Science and Technology in Zimbabwe.